

REMARKS

Claims 21, 27 and 47-55 stand rejected. Claims 21, 27, and 47-55 have been amended. New claims 56, 57, and 58 have been added to round out the scope of protection for the claimed invention. No new matter has been introduced. Claims 21, 27, and 47-58 are currently pending.

Claims 21, 27, 47, 49, 53 and 55 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kochi et al. (U.S. Patent No. 6,188,094). The rejection is respectfully traversed.

Independent claim 21 recites a light detecting system having an imager device “wherein a topmost portion of a topmost light conducting structure in the imager device is substantially planar.” Kochi fails to disclose, teach, or suggest this limitation. Indeed, Kochi’s topmost portion of its topmost light conducting structure is *not* substantially planar; Kochi teaches the use of conventional microlenses that are formed by reflow and curing. *See* Kochi at FIG. 1. The advantage of the claimed invention is the elimination of the non-planar microlenses, and the processing step involved in forming the conventional microlenses. Kochi, on the other hand, specifically teaches away from a substantially planar topmost portion; Kochi teaches “convex microlenses 17 are formed on the resin layer 16 at positions above the photoelectric conversion elements 11.” Kochi at 3:52-54; *see also* Kochi at FIG. 3A. Kochi’s microlenses 17 are the topmost light conducting structure depicted. As the microlenses’ 17 topmost portions are convex and not substantially planar, Kochi does not teach, disclose or suggest an imager device “wherein the topmost portion of the topmost light conducting structure in the imager device is substantially planar,” as recited in claim 21. Accordingly, Kochi fails to disclose, teach, or suggest each and every limitation of claim 21, and Applicant respectfully submits that claim 21 (and its dependent claims 47, 48, 49, 50, and 51) is allowable over Kochi, and the rejection be withdrawn.

Claim 27 is also not anticipated by Kochi. For the reasons discussed above with respect to claim 21, Kochi fails to disclose, teach, or suggest an imager device “wherein a topmost portion of topmost light conducting structure in the imager device is substantially planar,” as recited by claim 27. In fact, Kochi actually teaches away from such an arrangement as discussed above with respect to claim 21.

Accordingly, Kochi fails to disclose, teach, or suggest each and every limitation of claim 27, and Applicant respectfully submits that claim 27 (and its dependent claims 53, 54 and 55) is allowable over Kochi, and the rejection be withdrawn.

Claims 48, 50, and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over figure 1 of Kochi in view of figure 3A of Kochi. Applicant respectfully traverses the rejection.

Claims 48 and 50 depend from claim 21, and are allowable over Kochi for at least the reasons set forth above with respect to claim 21 and on their own merits.

Claim 54 depends from claim 27, and is allowable over Kochi for at least the reasons set forth above with respect to claim 27 and on its own merit.

Applicant respectfully requests that the rejection of dependent claims 48, 50, and 54 be withdrawn and the claims allowed.

Claim 51 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kochi in view of alleged Acknowledged Prior Art (“APA”). Applicant respectfully traverses the rejection.

Claim 51 depends from claim 21, and is allowable over Kochi for at least the reasons set forth above with respect to claim 21 and on its own merit. Furthermore, APA fails to disclose, teach, or suggest “a topmost portion of a topmost light conducting structure in the imager device is substantially planar.”

Accordingly, Applicant respectfully requests that the rejection of dependent claim 51 be withdrawn and the claim allowed.

Claim 52 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kochi. Applicant respectfully traverses the rejection.

Initially, Applicant notes that claim 52 has been amended as an independent claim. Turning now to the merits, claim 52 recites an imager device “wherein a portion of [a] second light conductor over [a] planar surface of [a] first light conductor has a thickness approximately equal to

$\lambda/2 * N$, wherein λ refers to a particular wavelength of light entering the microlens, and N refers to an index of refraction associated with the second light conductor.” The advantage of the claimed invention is that the portion of the second light conductor reduces cross talk between adjacent pixel cells by spectral reflections. *See* Lin at [0027].

Kochi fails to disclose, teach, or suggest a microlens for reducing cross talk, much less a “portion of [a] second light conductor over [a] planar surface of [a] first light conductor has a thickness approximately equal to $\lambda/2 * N$, wherein λ refers to a particular wavelength of light entering the microlens, and N refers to an index of refraction associated with the second light conductor.” Recognizing Kochi’s deficiencies, the Office Action merely states that it would have been obvious to modify Kochi to allegedly arrive at the claimed invention.

The Office Action, however, has failed to provide a *prima facie* case of obviousness. Applicant submits that the Office Action has not properly shown that the Applicant’s claims would have been obvious by conducting an examination of the Graham factors. *See* M.P.E.P. § 2141 (“Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case.”). Instead, the Office Action merely stated that it “would have been obvious to one having ordinary skill in the art at the time the invention was made to Kochi et al. by having a portion of the second light conductor over said planar surface the first light conductor having the claimed thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.” Office Action at 5. This statement is not an adequate substitution for an analysis of the Graham factors and does not show obviousness.

Indeed, the Office Action admits that Kochi does not teach or disclose a “portion of [a] second light conductor over [a] planar surface of [a] first light conductor has a thickness approximately equal to $\lambda/2 * N$, wherein λ refers to a particular wavelength of light entering the microlens, and N refers to an index of refraction associated with the second light conductor.” *Id.* The Office Action merely asserts that it “would have been obvious to one having ordinary skill in the art” to allegedly arrive at the claimed invention. *Id.* The Office Action has not applied the

proper test for obviousness; accordingly, the Office Action fails to make a *prima facie* case of obviousness. Without the benefit of hindsight, there would have been no motivation to modify Kochi, and the Office Action has failed to provide proof of any such motivation based on Kochi or other reasoning.

Furthermore, and as discussed above, Kochi does not even mention the disadvantage of cross talk, much less disclose a microlens structure to address such a concern. Accordingly, one of ordinary skill in the art would not have been motivated to alter or modify Kochi to “discover[] an optimum value of a result,” much less arrive at the claimed invention. The claimed invention and Kochi address very different problems.

For this reason, Applicant respectfully submits that the claims are allowable over Kochi, and the rejection be withdrawn. The dependent claims 56, 57, and 58 are allowable for at least the same reasons, and on their own merits.

Applicant respectfully requests that the rejection of dependent claim 52 be withdrawn and the claim allowed.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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